

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No
PCT/EP2004/013963

International filing date (day/month/year)
08.12.2004

Priority date (day/month/year)
08.12.2003

International Patent Classification (IPC) or both national classification and IPC
A61K7/16, A23G3/00

Applicant
CADBURY SCHWEPPE'S PLC

1. This opinion contains indications relating to the following items:

- ☒ Box No I Basis of the opinion
- ☐ Box No II Priority
- ☐ Box No III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No IV Lack of unity of invention
- ☒ Box No V Reasoned statement under Rule 43bis 1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No VI Certain documents cited
- ☐ Box No VII Certain defects in the international application
- ☐ Box No VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66 1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220

3. For further details, see notes to Form PCT/ISA/220

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10/582079

AP3 Rec'd PCT/PTO 08 JUN 2005

International application No
PCT/EP2004/013963

WRITTEN OPINION OF THE
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Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the International application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23 1(b))
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished
4. Additional comments:

WRITTEN OPINION OF THE
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International application No.
PCT/EP2004/013963

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement

1 Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-23
Inventive step (IS)	Yes: Claims	
	No: Claims	1-23
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

see separate sheet

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)

International application No.

PCT/EP2004/013963

Re Item V.

1 Reference is made to the following documents:

- D1 : WO 03/002056 A (CHURCH &; DWIGHT CO., INC) 9 January 2003 (2003-01-09)
D2 : US 2003/072841 A1 (RAJAIAH JAYANTH ET AL) 17 April 2003 (2003-04-17)
D3 : WO 03/017964 A (UNILEVER N.V.; UNILEVER PLC; HINDUSTAN LEVER LTD) 6 March 2003 (2003-03-06)
D4 : WO 99/12517 A (SMITHKLINE BEECHAM CORPORATION; SMITHKLINE BEECHAM PLC; CASH, MICHAEL;) 18 March 1999 (1999-03-18)
D5 : US 2003/072722 A1 (NATHOO SALIM A) 17 April 2003 (2003-04-17)
D6 : DE 36 45 147 C2 (COLGATE-PALMOLIVE CO., NEW YORK) 9 November 2000 (2000-11-09)
D7 : GB 1 018 665 A (UNILEVER LIMITED) 26 January 1966 (1966-01-26)

2 INDEPENDENT CLAIMS 1 AND 18-23

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses a solid oral composition (e.g. lozenge) to inhibit formation of plaque comprising calcium pyrophosphate, sodium bicarbonate, sweeteners and antibacterial agents. Thus, it is novelty destroying for claims 1-13 and 16-23.
- 2.2 Document D2 discloses chewing gum and confection compositions for plaque inhibition comprising e.g. calcium pyrophosphate, alkali metal bicarbonate salts, vitamin C, urea, whitening agents, flavouring agents and antibacterial agents. Thus, it is novelty destroying for claims 1-23.
- 2.3 Document D3 discloses oral compositions to clean the oral cavity (e.g. lozenge, gum) comprising calcium pyrophosphates, bicarbonate, vitamin C, urea, anti-calculus agents and flavours. Thus, it is novelty destroying for claims 1-17.
- 2.4 Document D4 discloses tooth whitening preparations comprising e.g. calcium

pyrophosphate, alkali metal bicarbonate, flavoring agents, anti-bacterial agents and colouring agents. The compositions of D4 are suitable for an oral tooth whitening confectionary composition of claim 1. Thus, D4 is novelty destroying for claims 1-13 and 16-23.

- 2.5 Document D5 discloses tooth whitening hydrogels comprising sodium pyrophosphate. These are suitable for the composition of claim 1, thus being novelty destroying for claims 1 and 18-23.
- 2.6 Document D6 discloses oral compositions (lozenge) for removing the stain comprising alkaline pyrophosphates and bicarbonate. Thus, D6 is novelty destroying for claims 1, 5-6, 9, 12-13 and 16-23.
- 2.7 Document D7 discloses dentifrices comprising calcium pyrophosphate, sodium methaphosphate, flavours and anti-bacterial agents. Thus, the composition of D7 is suitable for the oral composition according to claims 1-8 and 12.

3 The technical problem was to provide an alternative way of tooth whitening and the solution was to use a confectionary composition according to claims 18-23. The skilled person confronted with the above mentioned technical problem and equipped with the teaching of D3-D4 would have had motivation and technical guidance for modifying the tooth whitening composition of D4 (p.1, l.1-13) by bringing the composition in a form of lozenge as known from D3 (p.8, l.15).

Therefore the subject-matter of claims 18-23 does not involve an inventive step (Art. 33(3) PCT).